

CLAIMS

What is claimed is:

1. A crosspoint switch comprising:
a plurality of input buses, signals on the input buses being driven at low
swing;
a plurality of output buses, signals on the output buses being driven at
low swing; and
a plurality of crosspoints, each selectively passing a signal from a low
swing input bus to a low swing output bus.
2. A crosspoint switch as claimed in claim 1 wherein each crosspoint comprises an
amplifier.
3. A crosspoint switch as claimed in claim 2 wherein each crosspoint comprises a
low swing driver circuit.
4. A crosspoint switch as claimed in claim 3 wherein the amplifier is a clocked
regenerative amplifier.
5. A crosspoint switch as claimed in claim 4 further comprising a timing circuit
which controls timing of the crosspoint switch from a clock, the timing circuit
including a delay, the timing of which varies in a manner similar to timing
variations in the driver circuit.
6. A crosspoint switch as claimed in claim 3 wherein the signals on the input buses
and the output buses are differential signals.

7. A crosspoint switch as claimed in claim 6 wherein low swing drivers which drive the input buses and the low swing drivers at the crosspoints are push-pull driver circuits, each of which drives a pair of differential lines, one line driven high while the other line is pulled low.
- 5 8. A crosspoint switch as claimed in claim 1 further comprising a plurality of amplifiers which amplify the signals on the output buses, the amplifiers being clocked regenerative amplifiers.
9. A crosspoint switch as claimed in claim 8 wherein the signals on the input buses and the output buses are differential signals.
- 10 10. A crosspoint switch comprising:
a plurality of input buses;
a plurality of low swing drivers which drive signals to the input buses, each low swing driver driving a pair of differential lines, one line driven high while the other line is pulled low;
15 a plurality of output buses;
a plurality of crosspoints, each selectively passing a signal from an input bus to an output bus, each crosspoint comprising an amplifier which amplifies a signal on an input bus and a low swing driver which drives a low swing signal on an output bus; and
20 a plurality of output amplifiers which sense the signals on the output buses.
- Sub A3 11. A crosspoint switch as claimed in claim 10 further comprising a timing circuit which controls timing of the crosspoint switch from a clock, the timing circuit including a delay, the timing of which varies in a manner similar to timing variations in the driver circuit.
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12. A crosspoint switch as claimed in claim 11 wherein the amplifier is a clocked regenerative amplifier.
13. A method of connecting signals from a plurality of input buses to a plurality of output buses comprising:
 - 5 driving signals on the input buses with a low swing;
at crosspoints between the input buses and output buses sensing signals on the input buses and driving signals on the output buses at low swing; and
sensing the low swing signals on the output buses.
- 10 14. A method as claimed in claim 13 wherein the signals are sensed by a clocked regenerative amplifier.
15. A method as claimed in claim 14 further comprising controlling timing of the crosspoint switch from a clock through a timing circuit including a delay, the timing of which varies in a manner similar to timing variations in driver circuits which drive the signals.
- 15 16. A method as claimed in claim 13 wherein the signals on the input buses and the output buses are differential signals.
17. A method as claimed in claim 16 wherein the signals on the input buses and the output buses are driven by push-pull driver circuits, each of which drives a pair of differential lines, one line driven high while the other line is pulled low.
- 20 18. A method as claimed in claim 13 further comprising amplifying the signals on the output buses in amplifiers, the amplifiers being clocked regenerative amplifiers.

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19. A method as claimed in claim 18 wherein the signals on the input buses and the output buses are differential signals.
20. A method of connecting signals from a plurality of input buses to a plurality of output buses comprising:
 - 5 driving signals on the input buses through a plurality of low swing drivers, each low swing driver driving a pair of differential lines, one line driven high while the other line is pulled low;
 - at a plurality of crosspoints, sensing signals from the input buses with amplifiers which amplify signals on the input buses, and driving signals on the
 - 10 output buses with low swing drivers; and
 - sensing the low swing signals on the output buses with output amplifiers.
21. A crosspoint switch comprising:
 - means for driving a plurality of low swing signals on a plurality of input buses;
 - 15 a plurality of crosspoint means for sensing signals on the input buses and driving low swing signals on a plurality of output buses.

